

Hon. John M. Read, of Philadelphia.

Dr. Edward Jarvis, of Dorchester, Mass.

And the Society was thereupon adjourned.

Stated Meeting, February 6, 1863.

Present, twenty-one members.

Dr. WOOD, President, in the Chair.

Mr. Pliny E. Chase, a newly-elected member, was introduced to the President, and took his seat.

Letters accepting membership were read from the Hon. John M. Read, of Philadelphia, January 19th; from Dr. Edward Jarvis, Dorchester, Mass., January 20th; from Mr. A. H. Worthen, Springfield, Ill., January 21st; from Prof. Daniel Wilson, University College, Toronto, C. W., January 22d, and from Dr. George Smith, Upper Darby, Delaware County, Pa., January 22d, 1863.

Letters acknowledging publications were received from the Radcliffe Observatory, Oxford, November 28th, 1861; from the Society of Antiquaries, London, January 9th, 1862, and from the Historical Society of Pennsylvania, Philadelphia, January 20th, 1863.

Donations to the Library were received from the Ober-Commando of the Austrian Marine; the Royal, Royal Astronomical, Royal Asiatic, and Chemical Societies, in London; the Royal Observatory at Greenwich; Prof. De Morgan and Prof. Daubeny, of Oxford; the Boston Natural History Society; Silliman's Journal; the Franklin Institute, and Prof. Schaeffer; the Superintendents of the Coast Survey and Census Bureau, and Captain Abbot, of the U. S. Top. Engs.

Prof. Trego announced the death of Col. J. J. Abert, U. S. Top. Engs., January 27th, 1863, in the seventy-fifth year of his age.

Dr. Bache presented a written communication from Judge Carleton, which embodied the views expressed by him in previous discussions of the subject, as follows:

LIBERTY AND NECESSITY.

On both sides of this question authors agree that the Will is the immediate antecedent to action. The Arminians say it is a free, self-acting power; the Necessarians, that it is actuated by the strongest motive or judgment of the mind.

The controversy has been kept up for more than twenty centuries, although it turns solely upon facts within every man's daily experience.

LIBERTY.

The most approved definition of a free, self-acting Will, is that given by a Professor in an American University, as follows: "The Will is a cause contingent and free,—is first cause itself. Acts of the Will neither require nor admit of antecedent causes to explain their action. What moves the Will to go in the direction of reason? Nothing moves it; it is cause *per se*. It goes in that direction because it has power to go in that direction. What moves the Will to go in the direction of the sensitivity? Nothing moves it; it is cause *per se*. It goes in that direction because it has power to go in that direction. It is a power that is indifferent to the agreeableness or disagreeableness of objects. Distinct from reason, it is not conviction or belief."

The Professor is an eminent divine, the author of an elaborate work on the mind, in which we find the above definition of the Will.

When asked what moves him to pray and preach, he explains himself,—Nothing moves him to pray and preach; his Will moves itself. He prays and preaches because he is able to pray and preach. What moves him to eat and drink when hungry and thirsty? Nothing moves him; his Will moves itself. It neither requires nor admits of antecedent causes to explain its actions, and if it moved not of itself, the Professor might die of hunger or thirst.

That motion can begin of itself is purely a fiction, contrived to bolster up a senseless system of free agency, that sinks the mind below the instinct of brutes. The understanding was given to man, as his protection in the mixed state of good and evil in which he is placed. Without its guidance, his lawless will, if there be such an agent, would hurry him indiscriminately upon good or evil, without the power of choice or resistance.

Nevertheless, the late Sir William Hamilton is of opinion, that all

freedom of action would be destroyed, if controlled by the influence of motive. He says: "The determination of the Will by motive cannot, to our understanding, escape necessitation. How the Will can possibly be free, must remain to us under the present limitation of our faculties, wholly incomprehensible. How moral liberty is possible in man or God, we are utterly unable speculatively to understand, but practically the fact that we are free, is given in the consciousness of an uncompromising law of duty."

Descartes also thought that the solution of the question was beyond the reach of the human faculties. Mallebranche and Berkeley got over the difficulty by resolving every determination of the Will into the act of God. But a Professor in the University of Virginia, a strenuous advocate of free will, affirms that the Will is not determined at all. "It simply determines;" "is the determiner;" "that a Will controlled by motive is no Will at all;" "a caused volition is no volition." It is certainly true that a Will, controlled by motive, does not control itself, is not free.

Nevertheless every one is conscious, as is the Professor himself, that he acts under the control of some motive or determination of his mind, and that, when under no external restraint, his actions are always such as he intended they should be, as they certainly were when he committed the foregoing opinion to writing.

It is a waste of time to contend with those who are conscious that they are in the wrong. In all prosecutions for offences, the guilt or innocence of the accused turns upon the motive with which the act was done. No man can know his motive so well as the agent himself. He acts as he thinks; and as he thinks, so is he innocent or guilty. Actions must vary with motives, and hence the diversity of pursuit among mankind. Nevertheless, philosophers have labored two thousand years to show there is but one uniform cause of action, a free, self-acting Will, which they do not pretend can have any judgment, opinion, or motive of its own, and is yet independent of the motives of that mind of which it forms a part. Of all the aberrations of the human intellect, this is the most absurd. To such extremities are certain writers driven, to uphold their lawless system of free agency, lest it should be argued that if man be a necessary agent, God who made him so would be the author of all the sin and moral evil that afflicts our race.

But if, as some divines insist, all moral and physical evils were visited by act of God upon man, because of the sin of Adam; then the origin of evil is known, and no question can arise, or ought ever to have arisen about it.

But as we have no right to suppose that other evils than those mentioned in Scripture were visited upon the guilty pair, whence then came earthquakes, volcanoes, tempests, inundations, or commotions of the air, that have destroyed such multitudes of mankind? or whence came revenge, hate, malice, ambition, and lust, that have reddened the earth with the blood of her children, or the diseases, sufferings, and death of infants that have never sinned, or the oppressions of the weak by the strong, or the miseries of all living things that suffer from the sport and tyranny of men, whose all-devouring stomachs call for a daily sacrifice of millions at a meal?

It was the sovereign pleasure of the Deity to create different orders of imperfect beings from the insect up to man, all subject alike to suffering, disease, and death, and to place them on a globe, the imperfections of which are of a piece with their own. The existence of good and evil comes from the same Power, whose pleasure it was to create all things as they are.

It borders on blasphemy to argue that God could be the author of sin in any form. Sin is the transgression of a rule of conduct prescribed to man. God cannot sin. He cannot make graven images of Himself, honor His father or mother, or bear false witness against His neighbor. He knows no law but His own good pleasure. When He cuts off thousands by pestilence, wars, or earthquakes, He violates no law. He is a law unto Himself; there is no standard above Him.

NECESSITY.

It is a grievous evil that a question of fact, as is that of Liberty and Necessity, should remain unsettled after a controversy of more than two thousand years. The reason is plain. Unable to conceive how a determination of the mind could be the immediate cause of action, philosophers have invented a power they call the Will, which they imagined might actuate a man as the spring does the machinery of a watch, or the weights that of a clock.

This fiction is made the basis of every treatise on the mind, according as the writer shall espouse the side of Liberty or Necessity. One great truth, however, has been wrought out of this controversy by President Edwards, who has shown, beyond the possibility of a doubt, that all actions arise from "the perception of the greatest apparent good by a law of our nature, which we could not resist if we would, and would not if we could."

But that acute logician, yielding to the prejudice of the age,

thought that the determination of the mind could not of itself move a leg or an arm, without the concurrent agency of the Will, making two causes necessary to produce one effect, contrary to all the known laws of nature, wherein many effects are produced from a single cause. The fall of bodies, the motion of fluids, and the fluxes of the tides come of gravitation alone. Heat warms our blood, cooks our food, melts brass, expands the air, raises clouds, reanimates plants, clothes them with leaves, and the earth with verdure. The atmosphere is the vehicle of sound and respiration, causes twilight, morning, and evening, and scatters decaying substances upon the winds. Sir Isaac Newton has said: "More causes of natural things are not to be admitted than are necessary to explain the phenomena; for nature is simple, and does nothing in vain." While the Necessarians require two causes to one effect, the Arminians require only one Will that acts of itself. The mind, by its own energy, is the real cause of action; there is no such intermediate agent as the Will. If philosophers cannot understand how the mind can be the cause of action, how can they conceive the Will to be the cause? much less can they conceive the double agency of the Will, first to move itself, and then to move the man. That the mind is the immediate cause of action, is a fact of every man's own experience; for if actuated by any other cause, he would know it as he knows he hears with his ears, and sees with his eyes.

If metaphysicians earnestly seek the truth, they must condescend to men of low estate, who obey the teachings of simple nature unsophisticated by the speculations of philosophy. The most illiterate mechanic possesses within himself all that can be known of the human mind.

Ask a ploughman why he eats and drinks, he will reply, "To satisfy hunger and thirst." His answer is just and complete. Put the same question to a philosopher. He too will reply, "To satisfy hunger and thirst." But the ploughman acts directly under the impulse of his wants; while the philosopher's motive must first move the Will to move the man before he can eat or drink. The ploughman is conscious that his desire is the sole motive power. He knows of no such agent within him as the Will; whereas, the philosopher's desire cannot move him unless through the circuit of his Will.

According to the theory of the Necessarians, when a man walks a mile, he must repeat the operation of *motive, volition, action*, seventeen hundred and sixty times; *motive, volition, action*, the right foot, *motive, volition, action*, the left foot; and whatever else he may

do or say on the way will require the repetition of the same process, *motive, volition, action.*

THE WILL.

All controversies on Liberty and Necessity are made to turn upon the supposed powers of the Will.

Locke says the only object of the Will is some action of ours, nothing more.

Mallebranche thinks it is the province of the Will to reason.

Bielfield, that its quality is that of determining.

Hume, a power by which new actions and thoughts are produced.

Cousin resolves it into attention, consciousness, or measure of time, and says it can act against motive.

Edwards says: "The very act of volition itself is doubtless a determination of the mind," and that it does not differ from the affections.

Luther, that the foreknowledge of God is a thunderbolt that strikes free will into atoms.

Calvin thinks that volitions, as well as all other events, come to pass by the decrees of God.

Hobbs, Collins, and Edwards think they are necessitated by motives.

Reed and Clarke say the Will is the last determination of the mind.

Stewart says that it has no power over thought.

Gall and Spurzheim affirm it is merely the decision of the understanding.

Dr. Brown seems to identify it with desire.

Payne and Young are inclined to the same opinion.

Morrell says it is a spontaneity, or self-acting power.

Spinoza, that free will is a dream, a vulgar prejudice.

Descartes thinks that the Will is free, but cannot tell how.

Leibnitz held to necessity, in virtue of a pre-established harmony.

A hundred other instances might be adduced, from which it would appear that no two writers agree in their definition of the Will. The reason is plain. Its agency being purely imaginary, they take care to invest it with attributes to suit their respective theories; as writers of romance adapt their actors to the part they have to play.

The Will has proved a prolific source of bookmaking to metaphysicians. It is their darling theme, unexhausted and inexhaustible to

the end of time. Every year, almost every month, the press teems with romances on the Will, which are seldom read, never believed, and soon drop into oblivion. Other sciences are consistent, because founded in fact; but in mental philosophy the writer is never for two consecutive pages in harmony with himself.

The word *Will* is borrowed from the Scriptures, but diverted from its appropriate meaning. The Will of God is His pleasure, or whatever is agreeable to Him. "Thy will be done on earth as it is in heaven," is not a prayer for the exercise of His power, but that we may do His pleasure on earth as it is done in heaven. Again: "It is not every one that saith Lord, Lord, shall enter the kingdom of heaven, but he that doeth the *Will* of my Father, which is in heaven." That the word here means whatever is pleasing to God, cannot admit of a doubt, nor can it be made to have any other meaning throughout the whole body of the Scriptures.

Such is the sense, also, in which it is used in common speech among men. "If it be the Will of God, I shall reach home in safety," or "that I shall live until my son arrive from Europe." "God willing, the Sacrament will be administered in this church next sabbath."

So every man's will means his pleasure. To one you say, "What is your will, sir?" "To know if you are willing to take the price I offered you for your house." "No, I am not willing." To another, "What is your will, sir?" "To borrow Scott's Commentary." To a third, "What is your will, sir?" "To request you to send this letter to Liverpool."

The dynamic power of the Will is altogether a fiction. It is simply a passive capacity to receive pleasure, from whatever affects us agreeably at the time. An attribute is not an agent.

CAUSES OF ACTION.

Like all things else under the sun, the mind is passive, until aroused by its appropriate causes, sensations, and ideas. It is necessarily passive to all sensations before they are perceived, or to truths in science before they are known.

When not occupied by causes without, it is held in perpetual excitement by its own unceasing trains of thought, a fact that has deceived philosophers into a belief that the mind was an active principle in itself and never at rest; while all sound sleepers know that,

like the body, it has its periods of perfect repose. It is only when awake that it has dominion over the body by its own immediate energy, and never through the circuit of an imaginary Will. It is not the body but the mind that makes the man. As he thinks, so is he wise or foolish, good or bad, sinner or saint, Jew or Gentile, Pagan, Mahomedan, or Christian. The mind is the direct and sole dynamic power in man, and does not admit of any other cause of action than itself. It is single, not double; does not consist of one faculty to decree, and another, the Will, to execute its decrees; "for nature is simple, and does nothing in vain." It never employs two causes for one effect; on the contrary, it produces many effects from one cause.

Whatever comes to pass in the external world, or in the mind, must be attested by consciousness, the source of all knowledge, or it cannot be known. The existence of anger, hatred, love, remorse, motive, and all other mental phenomena, are as truly facts, as the death of a man or the birth of a child; and every one knows from his own consciousness, that they are the direct and immediate causes of action. In our most quiet moods, they rise to the surface, and betray the workings of the spirit within. We are by turns sad, soothed, gay, inflamed; we blush, or grow pale, by the mere power of thought. We are convulsed with laughter at a flash of wit; eyes, mouth, nose, chin, and cheeks, all partake of the perturbation, but instantly react at the sight of distress. Hope disappointed, mortification, remorse, sorrow, grief, the forebodings of evil that never happens, disturb the mind, and emaciate the frame. The first convulsive movement in a camp meeting gives rise to a second. The idea exists, and the effects follow. Boërhaave threatened to burn with a hot iron the next man in his hospital taken with St. Vitus's dance; and the fear of punishment prevented the recurrence of the evil. Von Swieten relates of himself, that he passed near where a dead dog had burst from putrefaction; the stench made him vomit. Three years thereafter he passed the same spot, when the recollection of the offensive object made him vomit again. A blacksmith at his anvil was told he had drawn thirty thousand pounds in a lottery; the hammer fell from his hand, and he became a maniac for life! The news of a sudden calamity will often overthrow the reason as effectually as a fracture of the skull from a blow. A child will shed tears at a tale of fictitious woe, and the rudest nature will surrender to emotions of pity at the complicated miseries of a tragic scene. The

bereft mother weeps at the thought of her departed child. When the thought is not present, her tears cease to flow.

That actions in all the above cases do proceed from the mind as the immediate cause, and not from the Will, are matters of fact attested by our own consciousness, from which there is no appeal.

Again : the passions, whether natural or acquired, play their part in the drama of life. Says an elegant writer : "The passions are the winds by which we sail, and, though they may upset our ship, we cannot sail without them." That their power over the mind, when excessive, often hurries us into deeds of violence, are facts that nobody will deny.

The motive power in man that absorbs all others, is the desire of happiness, that "light and glory of the world." Though he knows it is unattainable on earth, he does not relax his pursuit on that account. It is a necessity of his nature, that he should continue to hope, to act, and to be deceived until he dies. If he obtain his object, it often proves his destruction. He pursues what his judgment approves, and, though he may err, it is the only guide Providence has vouchsafed to bestow.

M. Cousin affirms, that "at the moment the Will exerts itself in a special act we are conscious it could exert itself in a special act totally contrary, without any obstacle, without being thereby exhausted ; so that having changed its acts a hundred times, the faculty remains integrally the same, being always able to do what it does not, and always able to do what it does. Here then, in all its plenitude, is the characteristic of Liberty." That is to say, the Will can act of itself, without or against motive, and for the truth of this fact, that philosopher takes refuge behind his own consciousness, where he knows he cannot be reached. No man is conscious of what he cannot know. Consciousness is knowledge. He is conscious of what he once did, or is now doing, but never of innate powers of mind before they are brought out by experience. Milton and Pope were not conscious they were born poets before put to the trial. Revolutions often bring to light powers before unknown to the possessors themselves.

M. Cousin's doctrine can never be tested by experiment ; since it is impossible to act without motive or against motive. While going to the east under a prevailing purpose, it is plain he could not turn his steps to the west, unless actuated by a contrary and stronger motive. Yet this same delusion is the besetting evil of all who write or speak on the subject of the Will. When they appeal to their

consciousness, they mean, if they understand themselves, that they could do the contrary, under the influence of a contrary motive, and not without.

He is a free agent who does as he prefers; a higher degree of freedom cannot exist. If he commit a crime, he does as he prefers; if he abstain, this also is as he prefers. His perception of the greatest apparent good is the sole and direct spring of action, as inseparable from his being as gravitation from matter. It is impossible he should prefer pain to pleasure. It is a necessity of his nature that he should do what he prefers. When he swallows a nauseous drug, or undergoes the amputation of a limb, his motive is not the drug or amputation; he suffers a present evil from the hope of a remote and greater good. In this he is a free agent, and acts as he prefers; he cannot act otherwise.

It is now plain that Liberty and Necessity, or free agency, can be affirmed of actions only, and never of the mind, whose thoughts are governed by laws beyond the reach of outward force.

Motive is but the preference of the mind for one action rather than another, and if a man can do what he prefers he is a free agent, but ceases to be so, as soon as put under external restraint. Free agency is freedom from external restraint; necessity is restraint by external force. A bonfire may be made of all books written on Liberty and Necessity; as everybody knows, from childhood upwards, when he is at liberty, or when he is prevented from doing what he pleases.

Mr. Foulke exhibited a box of phantom leaves dissected entirely by insects, and in a very perfect manner.

Mr. Foulke also exhibited articles of bijouterie made of woods and minerals from the Arctic regions, brought by the last Grinnell Expedition under Dr. Hayes.

Mr. Chase exhibited an alabaster cube or die, about seven-tenths of an inch square, picked up by a traveller from the floor of a Chinese temple, the angles and edges worn smooth, and on two opposite faces two inscriptions, the other four faces being plain. On one face the inscriptions read TA SIN SHAN TANG, four characters, occupying four quadrants within an octagon, and meaning Great Heart, Mountain Temple (or Mountain Plain).* The letters were in plain raised

* The character Tang has various meanings; "a palace; a temple; a hall; a wide level place on a mountain; high; dignified; illustrious," &c. It is per-

ridges, and of modern form. On the reverse, in one square



area with raised sides, stand two tall, thin, antique characters, side by side, of the form called Chuen Shoo, or Seal-letter, which are read LEIH CHAE, meaning "perfectly in order."

The four modern letters, besides their general significance, are also embraced in the list of about four hundred characters which are employed in proper names. The cube, therefore, probably belonged to Mr. Ta-Sin (or Mr. Great Heart), of Shan-Tang, by whom it may have been employed as a Hong seal. It is the custom of Chinese merchants, to keep private seals of such a description, with which, aided by a sponge saturated with India ink or vermilion, they stamp their notes and other documents, as an additional evidence of genuineness.

The seal is especially interesting, in consequence of the precise resemblance in form between the character Shan, and the Chaldaic Shin (𐎑). This resemblance was pointed out in the remarks on "Chinese and Indo-European Roots and Analogues" (see *Proceedings Am. Phil. Soc.*, volume for 1861), but in the ordinary mode of writing Shan, there is a downward stroke at the right hand, which is wanting in 𐎑. It is also wanting on the seal.

The belief in the hieroglyphic origin of our alphabet has many weighty arguments to sustain it. The interest excited by the works of Young and Champollion, naturally directed the attention of archaeologists to the monuments and papyri of Egypt, and encouraged the hope that among the various hieroglyphic, hieratic, and enchorial forms, the key to our own letters might be found. Many curious resemblances were pointed out, but none so decisive as to command universal assent.

M. de Guignes, in a memoir read before the Academy of Belles-Lettres in 1758, called attention to the syllabic characters of the Chinese, many of which can be readily traced to their hieroglyphic originals, while some are used in a peculiar quasi-alphabetic manner.

haps etymologically connected with the Indo-European root, Tan or Tang, "to extend; to spread." Shan-Tang is probably a city situated on an elevated tableland.—The woodcut represents the stamp-mark of the seal.

But he was so imbued with a belief in the greater antiquity of Egyptian civilization, that he supposed China to have been settled by an Egyptian colony, and its writings to have been borrowed from Egypt,—inferences that were not well sustained, and his arguments were therefore generally discredited. Nevertheless, his memoir is well worthy of perusal, and the coincidences (if they are nothing more), that he has ingeniously pointed out, are such as to stimulate curiosity.

The Roman, Greek, Samaritan, Phœnician, and ancient Hebrew alphabets, all bear unmistakable evidence of a common origin. The modern Hebrew, which was borrowed from the Chaldaic, although different in most of its forms, still presents a marked affinity to the others in the number, arrangement, and names of its several letters, and in a traceable gradation of successive forms. The Hebrews, during their Egyptian bondage, may have modified their alphabet, and perhaps borrowed some additional letters, but is it probable that they were ignorant of writing before their captivity, or that we must look to the narrow valley of the Nile, for the origin not only of the civilization, but also of the monumental records of Europe and Asia? Does it not seem more reasonable to suppose that a more encouraging field for alphabetic investigation, may be found among a people that preserves the oldest extant type of civilization, still speaking a language and using hieroglyphic and alphabetic characters that have remained unchanged for more than two thousand years?*

Dr. Emerson made the following communication in relation to the African Imphee:

In a recent communication to this Society, I brought to its notice the introduction into Europe and the United States, of the *Sorghum Saccharatum*, or sugar-cane of the Northern provinces of China, referring to its great agricultural value, and its wonderful capacity to extend the sugar culture far beyond the tropical latitudes, to which and their immediate proximity, this valuable branch of industry has heretofore been limited in the Western World. The historical sketch

* The suggestive nature of Chinese writing, on which the natives pride themselves, is well illustrated by the first of the Chuen Shoo characters on the seal. The character appears to have been purposely shaped in such a way as to remind one of the three words Leih, "to establish or confirm,"—Chung, "truly,"—and Tsze, "self." The impression of the seal on any document, thus conveys the idea that it was stamped by the owner himself, to firmly establish the authenticity and validity of his signature.

of this extension of the sugar culture would be incomplete, without some account of the almost simultaneous introduction of another kind of cane derived from Africa, which for its sugar-making capacities, and other valuable purposes in extra-tropical situations, stands the rival of the Sorghum. I refer to the Imphee, or African sugar-cane.

The introduction of the Chinese Sorghum into the Western World appears to have been a somewhat fortuitous event. Not so, however, with that of the African cane, or Imphee, for which Europe and America stand indebted to the intelligence and well-directed enterprise of Mr. Leonard Wray, a professed sugar manufacturer, and author of books upon the subject. He informs us that whilst engaged in researches upon sugar-making, his mind became strongly impressed with the idea that "the reed," "the sweet reed," made such frequent mention of by ancient writers, as used by the natives of Morocco, Ethiopia, Egypt, Arabia, and India, for the purpose of making sugar, or jaggery, did not in all cases mean the tropical sugar-cane, but that some other reed-like plant was more probably referred to. Impelled by this impression, Mr. Wray at length determined to make explorations himself in Southern Africa, and for this purpose, left Calcutta in 1850 for the Cape of Good Hope. From thence he made a journey to Kaffirland, and in 1851, the very year that the seed of the Chinese Sorghum were sent from China by Count de Montigny, he found a species of cane, called by the Zulu Kaffirs Imphee. This he describes as a tall, slender, and very elegant plant, with light and graceful leaves, and tints bright and varied in different stages of its growth, exhaling a perfume strong and agreeable, somewhat resembling that of rich new honey.

Subsequently following up his researches, he sent out the most intelligent natives he could find, to collect seed of the different kinds of Imphee to be met with, and thus succeeded in obtaining no less than fifteen varieties of the plant, differing more or less from each other in external characters, saccharine richness, and periods of maturation. The several varieties of this family of plants, such as the Durra, Kaffir corn, or Guinea corn, are cultivated by the natives of different parts of Africa for their grain only, but Mr. Wray informs us, the Imphee is grown by the Kaffirs solely for its sweet juice, and never, to his knowledge, for its grain. They do not make from it either syrup or sugar, but content themselves with masticating and sucking the juice as an article of food. Mr. Wray tells us that it remains to be ascertained, whether we can, by adopting proper measures, obtain hybrids between the Imphee and sugar-cane.

Having remained long enough at Natal to ascertain the particular habits of his fifteen varieties, to each of which he has given its Kaffir name, and also to make sugar from them all, he left for Europe to prosecute further experiments, and introduce to the notice of the civilized world, the vast importance of his Imphee plants for sugar-making. He had patches of these planted in England, France, and Belgium. Since then, the culture has been extended by his efforts to Turkey, Egypt, the West Indies, Brazil, and other distant countries. In the United States, some have preferred the Chinese, others the African cane. Whilst the Imphee may be well adapted to certain localities, there can, I think, be little doubt of the superior value of the Chinese Sorghum for general cultivation in our Middle, Western, and Northern States.

Mr. Wray frankly tells us, that in looking into various botanical works, he finds that attempts had been formerly made, by Signor Arderino and others, to introduce varieties of this plant into European cultivation, for the purpose of making sugar, but from some cause or other, all their efforts had proved unsuccessful. These failures he ascribes to want of knowledge of the kinds of Imphee best adapted to the purpose, and want of skill to properly treat the juice.

In the course of the discussion which ensued, Mr. Fraley stated, on the authority of the Hon. Morris Davis, who was, in connection with Mr. Lovering, among the first to experiment on the Sorghum sugar manufacture, that the annual production of Sorghum syrup in the United States is already seventeen millions of gallons, equivalent to eighty-five millions of pounds of sugar; but the demand for the syrup is so great, that it bars for the present the sugar manufacture.

The recommendations of the Library Committee, postponed from the last meeting, were then briefly discussed, and on motion postponed to the next meeting.

Pending nominations Nos. 481, 482, and new nomination No. 483, were read.

And the Society was adjourned.